

NAVAL BASE PHILADELPHIA-PHILADELPHIA NAVAL SHIPYARD,
DRYDOCK No. 2
League Island
Philadelphia
Philadelphia County
Pennsylvania

HAER No. PA-387-B

HAER
PA
51-PHILA,
709B-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
P.O. Box 37127
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

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Location: Foot of Third Street West, Philadelphia Naval Base -Philadelphia Naval Shipyard on League Island at the confluence of the Delaware and Schuylkill Rivers, in the City of Philadelphia, County of Philadelphia, Pennsylvania.

UTM Coordinates: Zone Easting Northing
18 483500 4415110
Quad: Philadelphia, PA. - N.J. 1:24000

Dates of Construction: 1900-1910

Foundation/Construction: Timber Piles/Concrete

Engineers/Contractors 1900 Atlantic Gulf and Pacific Company
1903 G.M. Scofield Company
1909 McIntosh, Seymour Company

Present Owner: Commander, Naval Base Philadelphia - Department of the Navy

Present Use: Unused and in good condition. The drydock is 754 feet long, 140 feet wide and 30 feet deep.

Significance: Drydock No. 2 was built during a period of rapid technological change in naval shipbuilding. The original plan was for a timber drydock, but it gave the government an option of changing to require a drydock built with stone and concrete. In 1901 the plan was changed to stone and concrete construction. No pile foundation was called for in this new contract. As the work progressed, it became obvious that piles would be necessary. An agreement could not be reached with the contractor on the cost of pile installation. In 1903 a new contractor took over the work and made progress, but eventually ran into financial difficulties and went bankrupt. The contract was voided in January of 1908. The third contractor took over and completed the work on September 22, 1910. During the years from 1900 to 1910 battleships increased in size and drydock No. 2 was too small to receive the newer designs. The drydock was limited to repair and construction of smaller vessels.

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Historian: Robert C. Stewart, July 1994

Project Information: This documentation project is part of the Historic American Engineering Record (HAER), a long range program to document historically significant engineering and industrial works in the United States. The HAER program is administered by the Historic American Buildings Survey/Historic American Engineering Record Division (HABS/HAER) of the National Park Service, U.S. Department of the Interior. The Naval Base Philadelphia - Philadelphia Naval Shipyard recording project was cosponsored during the summer of 1994 by HABS/HAER under the general direction of Dr. Robert J. Kapsch, Chief, and by Naval Base Philadelphia, under the command of Rear Admiral Louise C. Wilmot.

The field work, historical reports and photographs were prepared under the direction of project leader Dean Herrin, HAER Historian and Craig Strong, HAER Architect. The recording team consisted of Robert C. Stewart, Historical Archaeologist, West Suffield, CT. The historical section of the report was produced by John Bacon, Philadelphia Maritime Museum and Robert C. Stewart. Jet Lowe, HAER, was responsible for formal photography. The interpretive drawings were delineated by Doug Anderson.

Others who contributed their time, advice, documents and help were: Jane Allen (Philadelphia Maritime Museum), Dan Cashin (Chief, Rigger Apprentice Training), Alfred Cavallero (Manager Design Branch-Public Works Engineering), Rich Chlan (Public Affairs Officer-PNSY), Ed Delany (Fire Administration), Ralph Edelman (Quality Assurance), John Fedak (coppersmith), Robert Gorgone (Deputy Business and Strategic Planning Officer-PNSY), John Hilliard (upholsterer), Ed Jones (Boilermakers), Frank Matusik (Foreman - Lofting), Frank Mellert (Architect - Public Works Engineering), Rosalie Moschella Pinto (Tacker - retired, 26 shop), Paul Niessner (Equipment Specialist - Cranes), Ed Ochmanowicz (Superintendent 31 Shop - Inside Machining), Steve Pandur (Leadingman - Fabric Workers - Sail Loft), Elaine Pelagruto (Beacon Editor), Tom Pierson (Loftsman), Cece Saunders (Historical Perspectives), Richard Scardino (Leadingman -11 shop - ship fitting), Martin Sheeron (Superintendent -

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Boilermakers), Commander Walter T. Talunas, USNR (Human Resources Transition Coordinator).

For additional information, see the following HAER documentation:

HAER No. PA-387	NAVAL BASE PHILADELPHIA - PHILADELPHIA NAVAL SHIPYARD (Overview, includes bibliography)
HAER No. PA-387-A	NBP-PNSY, DRYDOCK No. 1
HAER No. PA-387-C	NBP-PNSY, DRYDOCK No. 3
HAER No. PA-387-D	NBP-PNSY, DRYDOCK No. 4
HAER No. PA-387-E	NBP-PNSY, DRYDOCK No. 5
HAER No. PA-387-F	NBP-PNSY, 350-TON HAMMERHEAD CRANE
HAER No. PA-387-G	NBP-PNSY, 3,000-POUND CRANE
HAER No. PA-387-H	NBP-PNSY, MANAGEMENT ENGINEERING (Bldg. No. 4)
HAER No. PA-387-I	NBP-PNSY, SUPPLY DEPT. STOREHOUSE (Bldg. No. 5)
HAER No. PA-387-J	NBP-PNSY, COMMANDER'S OFFICE-NAVAL BASE (Bldg. No. 6)
HAER No. PA-387-K	NBP-PNSY, STEEL STOREHOUSE (Bldg. No. 8)
HAER No. PA-387-L	NBP-PNSY, CARPENTRY SHOP (Bldg. No. 14)
HAER No. PA-387-M	NBP-PNSY, MACHINE SHOPS (Bldgs. No. 16 & 18)
HAER No. PA-387-N	NBP-PNSY, MACHINE SHOPS (Bldgs. No. 17 & 19)
HAER No. PA-387-O	NBP-PNSY, FOUNDRY/PROPELLER SHOP (Bldg. No. 20)
HAER No. PA-387-P	NBP-PNSY, STRUCTURAL SHOP (Bldg. No. 57)
HAER No. PA-387-Q	NBP-PNSY, AIRCRAFT STOREHOUSE (Bldg. No. 76)
HAER No. PA-387-R	NBP-PNSY, AIRCRAFT ASSEMBLY SHOP PLANT No. 2 (Bldg. No. 77H)
HAER No. PA-387-S	NBP-PNSY, STRUCTURAL ASSEMBLY SHOP (Bldg. No. 541)
HAER No. PA-387-T	NBP-PNSY, PIPE COPPERSMITH SHOP (Bldg. No. 543)
HAER No. PA-387-U	NBP-PNSY, MATERIAL ASSEMBLY SHOP (Bldg. No. 592)
HAER No. PA-387-V	NBP-PNSY, MAIN SUPPLY WAREHOUSE (Bldg. No. 624)
HAER No. PA-387-W	NBP-PNSY, RESERVE BASIN AND MARINE RAILWAY

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DRYDOCK No. 2

An act of Congress on May 4, 1898 authorized the construction of a second timber drydock at the Philadelphia Navy Yard. A contract to build a timber dock on pile foundations along with an engine and boiler house, pump house and well was entered into with the Atlantic, Gulf and Pacific Company. The contract price was \$782,600. The contract allowed the Government, with the authorization of Congress, to modify the plans and specifications and require that the drydock be constructed of concrete and stone instead of timber. Congress authorized the Secretary of the Navy to change to a stone and concrete dock at his discretion on January 25, 1900.

The contract with Atlantic was changed by an agreement dated April 6, 1901 to provide a concrete and stone drydock at a cost of \$1,133,592.77. This agreement did not specify a pile foundation. Additional changes for an enlarged power plant resulted in an additional cost of \$17,740.12.

As the work progressed the need for piles became obvious. A board was appointed to determine the increased cost for piles. The board recommended the contract price be increased by \$66,470.77. Atlantic did not accept the recommended amount and refused to execute the agreement. Work came to a stand-still and the Bureau of Yards and Docks declared the contract null and void on November 23, 1902.

A new contract was signed with the G.M. Scofield Company to complete the project at a cost of \$1,148,500. Many changes were made in the contract in equipment when the drydock power plant was enlarged to provide additional power to the Yards and Docks Department. Virtually all equipment originally specified was changed or upgraded.

Progress on the project was acceptable until late 1906. The official test of the drydock took place on October 16, 1907 during the docking of the U.S.S. Kansas. There were several deficiencies, especially in the operation of three Great Lakes Steam Engines. By this time the contractor was having financial problems and was in receivership. In November of 1907 the Scofield workers, not having been paid for some time, went on strike. No resolution was reached between the Trustee in Bankruptcy and the Navy, and the Bureau of Yards and Docks voided the contract on January 6, 1908. On November 30, 1908 an investigating board declared that the three engines were unsuitable for power plant operation and recommended that they be replaced.

On September 14, 1909, a contract was signed with the McIntosh, Seymour Company for furnishing and installing three engines in the power house. The installation of the new engines was completed September 22, 1910. The cost of the drydock and pump well exclusive of the power

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house and equipment was \$1,125,000.¹

Dimensions of Drydock No. 2:

Length of coping from head to outer sill	754' 6-7/8"
Length of floor from head to outer sill	725' 10-1/2"
Width of entrance at coping	102' 7-1/4"
Width at coping in body of dock	140' 2-3/4"
Width on floor in body of dock	82' 10"
Depth over sill at mean high water	30' 2-3/8"

In theory the largest ship that could be docked is one 687 feet long, 93 feet 3 inches in the beam and drawing 27 feet. The dock could be pumped dry in 2 hours and filled in 1 hour and 40 minutes.²

For a list of related sources, see the bibliography at the end of the written report for HAER No. PA-387, Naval Base Philadelphia - Philadelphia Naval Shipyard.

¹A. R. Ritter "A Brief History of the Philadelphia Navy Yard from its Inception to December 31, 1920." Beacon archives (PNSY newspaper), (1921): 3-4.

² Ritter, "Brief History," 2.